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| 09/583,883      | 05/31/2000  | Terry R. Lee         | M4065.0260/P260     | 1931             |

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EXAMINER

HUYNH, KIM T

| ART UNIT | PAPER NUMBER |
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2189

DATE MAILED: 01/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/583,883

Applicant(s)

LEE, TERRY R.

Examiner

Kim T. Huynh

Art Unit

2189

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 4-14, 17-30, 33-36, 39-44, 50-51, 54-59, 65-72 are rejected under 35 U.S.C. 102(e) as being anticipated by Appel et al. (U.S Patent 6,219,733)

a. As per claim 1, 14, 30. Appel discloses method of routing a system bus to a plurality of expansion cards said method comprises:

- routing the bus (fig.4, 301) into a first connector (fig.4, 302) and into a first circuit card residing within the first connector; (col.5, lines 54-57)
- routing the bus from a portion of the first circuit card into a portion of a second circuit card residing within a second connector, wherein the bus is routed from the first circuit card to the second circuit card without entering the second connector; (fig.4), (col.3, lines 62-67), (col.2, lines 6-19)

- routing the bus (fig.4, 301) through the second circuit card (fig.4, 305) to the second connector (fig.4, 104), (col.5, lines 58-62).
- b. As per claim 4, 17, 33 Appel discloses the method further comprising the act of routing the bus out of the second connector (fig.4, 104) into a portion of a system circuit board.
- c. As per claim 5, 18. Appel discloses the method further comprising the act of terminating the bus after routing the bus out of the second connector. (fig.4, 105, 107)
- d. As per claim 6,7 and 19, 20, 42, 57 Appel discloses the method wherein the first and second circuit cards each contain a top edge portion, each top edge portions being opposite an edge portion residing in a respective connector, and wherein the bus is routed from the top edge portion of the first circuit card into the top edge portion of the second circuit card. (fig.4) (col.6, lines 14-63), (col.2, lines 6-19)
- e. As per claim 8 and 22, Appel discloses wherein said act of routing the bus from the portion of the first circuit card into the portion of the second circuit card comprises connecting the portion of the first circuit card to the portion of the second circuit card by a jumper mechanism. (fig.4, 301), (col.2, lines 6-19)
- f. As per claim 9, 23, Appel discloses wherein said act of routing the bus (fig.4, 301) from the portion of the first circuit card into the portion of the second circuit card comprises connecting the portion of the first circuit card to the portion of the

second circuit card by a circuit board having bus portion traces for continuing the bus between the first and second circuit cards. (col.2, lines 6-19)

g. As per claim 10, Appel discloses wherein said act of routing the bus from the portion of the first circuit card into the portion of the second circuit card comprises connecting the portion of the first circuit card to the portion of the second circuit card by a cable. (fig.4, 301), (col.2, lines 25)

h. As per claim 11-13, 24-26 Appel discloses wherein at least address, data and control signals are routed on said bus between the first and second circuit cards. (fig.4, 105, 107), (col.3, lines 1-8)

i. As per claim 21, 40 and 55, Appel discloses wherein said act of routing the bus from the portion of the first circuit card into the portion of the second circuit card comprises connecting the portion of the first circuit card to the portion of the second circuit card by a jumper mechanism. (col.2, lines 6-19)

j. As per claim 27, Appel discloses wherein the bus (fig.4, 301) is routed into the first circuit card by routing the bus into a first connector (fig.4, 302) in which the first circuit card is residing. (col.5, lines 54-57)

k. As per claim 28, Appel discloses wherein the bus is routed out of the second circuit card (fig.4, 305) by routing the bus out into a second connector in which the second circuit card is residing. (fig.4, 104)

l. As per claim 29, Appel discloses wherein a first portion of bus (fig.4, 301) signals are routed between the first and second circuit cards and a second

portion of bus signals are provided to the second circuit card from the motherboard (fig.4, 100), (col.2, lines 6-19).

m. As per claim 34, 71 Appel discloses wherein the bus is routed to a first interface device connected the device on the first circuit card and the first interface device provides bus signals to the device on the first circuit card. (col.2, lines 6-19)

n. As per claim 35, 72 Appel discloses wherein the bus is routed to a second interface device connected the device on the second circuit card and the second interface device provides bus signals to the device on the second circuit card. (col.2, lines 6-19)

o. As per claim 36, 51 Appel discloses a bus system comprising:

- a bus mounted on a circuit board of said system; (col.2, lines 6-11)
- a plurality of expansion slots, each slot comprising a connector mounted on said circuit board and a circuit card residing within the connector, wherein said bus is routed into a first connector, into a first circuit card residing within said first connector, out of a portion of said first circuit card into a portion of a second circuit card residing within a second connector and through said second circuit card, and wherein said bus is routed from said first circuit card to said second circuit card without entering said second connector. (fig.4), (col.2, lines 6-19)

p. As per claim 39, 54 Appel discloses wherein said bus is terminated by a plurality of resistors(fig.3, 306, 307). (col.3, lines 23-43), (col.4, lines 18-27)

q. As per claim 41, 56 Appel discloses wherein said portions are located at a top edge of said first and second circuit cards opposite a bottom edge residing in said connectors. (fig.4), (col.6, lines 14-63), (col.2, lines 6-19)

r. As per claim 43, 58 Appel discloses wherein said jumper mechanism comprises:

- a circuit board having bus portion traces configured for continuing said bus between said first and second circuit cards; (col.2, lines 6-19)
- a plurality of connectors coupled to said circuit board, at least one connector adapted to receive said portion of said first circuit card and at least one other connector adapted to receive said portion of said second circuit card. (col.2, lines 6-26)

s. As per claim 44, 59 Appel discloses wherein said jumper mechanism comprises:

- a cable configured for continuing said bus between said first and second circuit cards; (col.2, lines 6-11)
- a plurality of connectors coupled to said cable, at least one connector adapted to receive said portion of said first circuit card and at least one other connector adapted to receive said portion of said second circuit card. (col.2, lines 6-19)

t. As per claim 50, 65 Appel discloses wherein said circuit cards are dynamic random access memory circuit cards and said system further comprises a memory controller coupled to said bus. (fig.5, 513)

u. As per claim 66-68, 70 Appel discloses a processor-based system comprising:

- a processor; (fig.5, 510)
- a bus system (fig.5, 512) coupled to said processor;
- a bus mounted on a circuit board of said system; (col.2, lines 6-19)
- a plurality of expansion slots, each slot comprising a connector mounted on said circuit board and a circuit card residing within the connector, wherein said bus is routed into a first connector, into a first circuit card residing within said first connector, out of a portion of said first circuit card into a portion of a second circuit card residing within a second connector, through said second circuit card and out of said second connector, wherein said bus is routed from said first circuit card into said second circuit card without entering said second connector. (fig.4, col.2, lines 6-19)

v. As per claim 69, Appel discloses a circuit card for use in a expandable system comprising:

- an input bus connection (fig.4, 301) for receiving signals from a system bus; (fig.4, 105, 107),
- an output bus connection (fig.4, 301) for outputting signals to said bus; (fig.4, 105, 107)
- a bus portion connecting said input bus connection to said output bus connection for routing bus signals through said card, wherein either said input bus connection does not connect to a connector in which



said card resides or said output bus connection does not connect to a connector in which said card resides. (col.4, lines 1-27), (col.3, lines 62-67)

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3, 15-16, 31-32, 37-38, 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Appel et al. (U.S Patent 6,219,733)

Appel discloses the claimed inventions as above for claim 1, which show routing bus from 1<sup>st</sup> circuit card to 2<sup>nd</sup> circuit card. However, Appel fails to show routing bus of 3<sup>rd</sup> to 4<sup>th</sup> circuit card. The addition of routing bus from 3<sup>rd</sup> to 4<sup>th</sup> circuit card is a mere duplication of parts producing no new and unexpected result and therefore has no patentable significance. See MPEP 2144.04 VI B, and *In re Harza*, 274 F.2d 669, 124 USPQ 378(CCPA 1960). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include the routing bus of 3<sup>rd</sup> or 4<sup>th</sup> circuit card into Appel's method so as to have a greater flexibility and so as to be compatible to have plurality of devices into system.

5. Claims 45 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Appel et al. (U.S Patent 6,219,733) in view of Cargin, Jr. et al. (U.S Patent 6,023,147)

Appel discloses the limitation of connection circuits via bus cable except Appel fails to disclose specific type of cable as claimed in claims 45 and 60, the ribbon cable. However, Cargin discloses ribbon cable, (col.17, lines 21-29)

It would have been obvious one having ordinary skills in the art at the time the invention was made to incorporate Cargin's teaching into Appel's method to have a ribbon cable *well known* which the equivalent purpose of transmitting digital data between devices.

6. Claims 46-49 and 61-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Appel et al. (U.S Patent 6,219,733) in view of Handbook of LAN Cable Testing, Wavetek

Appel discloses the limitation of connection circuits via bus cable except Appel fails to disclose specific type of cable as claimed in claims 46-49 and 61-64, ribbon cable with a shield, coaxial cable, a twisted pair wiring and a waveguide. However, the Handbook of Lan Cable Testing discloses different types of cable which included shield/unshield, coaxial cable, a twisted pair wiring and a waveguide. (see page 55-56)

It would have been obvious one having ordinary skills in the art at the time the invention was made to incorporate different types of cable into Appel's method to have a variety of cable which the equivalent purpose of transmitting digital data between devices.

### **Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Borchew et al. [USPN 5,536,176] discloses jumper mechanism. (col2, lines 28-39)

*Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (703)305-5384 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 8:30AM- 6:30PM.*

*If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815 or via e-mail addressed to [mark.rinehart@uspto.gov]. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-7249 for regular communications and (703)746-7238 for After Final communications.*

*Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5631.*

Kim Huynh

Jan. 6, 2003



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